

Further, when sludge in the engine oil is attached on the surface of the magnetized disc by magnetic force, the sludge gives also adverse effects to the magnetic field of the magnetized disc. In such the cases, there is a problem that signal patterns outputted from the magnetic sensor may be disturbed.

Summary of the Invention

The present invention is made to solve the above-described problems, and an objective of the present invention is to provide a sealing device with a rotation detecting element capable of detecting rotation even when fluid such as engine oil is an object to be sealed.

In order to effectively solve the above-described technical problems, a sealing device with a rotation detecting element according to the present invention comprises a stationary side sealing element which has an attachment ring fixed to the stationary side and a seal ring having a seal lip integrally formed with the attachment ring and positioned at the inner side of an engine from an end part thereof on the atmosphere side; a rotation side sealing element which is installed on the rotation side and has a seal flange extending to have a disc shape from an end part at the inside of the engine, and slidably and hermetically contacting with the seal lip so as to seal fluid in the engine; and a to-be-detected disc for rotation

detection which has a flange positioned at the inner peripheral side of the stationary side sealing element, fitted to an end part at the opposite side of the seal flange in the rotation side sealing element, and extended to have a disc shape, and a magnetized rubber disc adhered on an outside surface of the flange. An outer peripheral edge of the to-be-detected disc closely faces an inner peripheral surface of the stationary side sealing element in the radial direction.

According to the sealing device with the rotation detecting element according to the present invention, the to-be-detected disc for rotation detection is fitted to the end part at the opposite side of the seal flange in the rotation side sealing element, that is, provided at the atmosphere side from the sealing and sliding section between the seal lip of the stationary side sealing element and the seal flange of the rotation side sealing element. So, the rotation can be detected at the atmosphere side by the sensor even if fluid such as engine oil is an object to be sealed by the sealing and sliding section. Further, the to-be-detected disc closely faces the inner peripheral surface of the stationary side sealing element in the radial direction, so as to form a labyrinth seal. So, sealing ability against foreign materials on the atmosphere side can be enhanced. Further, the to-be-detected disc is

positioned on the inner peripheral side of the stationary side sealing element. So, increase of a mounting space in the axial direction of the sealing device by providing the to-be-detected disc can be prevented.

BRIEF EXPLANATION OF DRAWINGS